Love of life begins with "Rcom"

MARU

REV. 3.2

DIGITAL EGG INCUBATOR

USER'S MANUAL

MARU MAX (190 / 380 / 1000)

Cradle Type

Rcom

Contents

How to use Rcom MARU MAX 190 / 380 / 1000

1. Introduction

(1) Rcom MARU Introduction — 4 ~ 8
(2) Safety precautions
(3) Identification of Parts
(4) Basic components
(5) Name & Function of Operation Parts
(6) Easy Function Operation

2. Before use

(1) What is an Incubation Room? — 9
(2) How to Install Incubation / How to assemble the rotary wheel [Options]

3. Incubation

(1) Preparation for Incubation / How to Start Incubation — 10 ~ 13
(2) Egg Turning / Humidification / How to Terminate Incubation
(3) Humidity & Air Maintenance during Incubation / Maintenance after Hatching / Dew Condensation

4. Function Settings

(1) Return to Factory Setting — 14 ~ 17
(2) Temperature / Humidity Setting
(3) How to preserve the humidification-unit part / How to Set Abnormal High & Low Temp. Alarm
(4) How to change Centigrade & Fahrenheit
(5) Egg Turning Interval Setting

5. How to Clean

(1) Disassembling and Cleaning the Incubator — 18 ~ 19

6. Product Information

(1) How to Replace Fuse / Servicing / Frequently Asked Questions (FAQ) — 20 ~ 23
(2) Troubleshooting
(3) Specification

Introduction

Before use

Incubation

Function Settings

How to Clean

Product Information

The result of Hatching and Brooding can be changed by a large numbers of factors. Autoelex Co., Ltd. & our distributors will not take any responsibility for 'Loss of eggs or pet/animal lives' under any circumstances such as 'Hatching/Brooding failures', 'User's carelessness', 'Personal (un-certificated) conversion / alteration', 'Arbitrary using out of the machine's purpose', 'Electric power failure', or 'Malfunctioning'. Please be sure that the machine works without any problem before placing Eggs or Pets(Animals). Also, we strongly recommend you to read the User's Manual carefully to minimize of any failure.

Mark Explanation

Caution : Caution mark against a fault that can cause damage, trouble, or failure of incubation.

- Prohibited
- It is necessary to keep.
- Do not disassemble.
- Remove the power cord from outlet.
- Do not touch.
- Ground Connection for preventing electric shock.

Tip : References or useful suggestions in using Rcom product

CAUTION Warning of actions which may be dangerous or cause damage to the incubator.

Rcom MARU

First of all, sincerely thank you for all purchasing Rcom MARU incubators.
It has been designed to analyze airflow from computer simulation in order to keep optimal environment inside of incubator and applied high digital technology to control automatic hatching system.
However, to acquire top-notch hatching result, user's knowledge of the machine and manage the incubator are also important. Certainly, we provide optimal hatching environment but need to be managed temperature and humidity carefully depends on egg species, environment, and capacity. moreover, Rcom MARU has been designed already to provide the best optimal hatching environment, therefore, before using the incubator, we strongly recommend you that please read the manual carefully.

Features

[Main Function] MAX 190 / 380 / 1000

* Intergarted simplify control pannel(superior maintenance)
* Automatic temperature & humidity control and set function
* Automatic egg turning & turning interval set function (1h, 2h, 3h)
* FND display for easy recognition of incubation state
* Artificial intelligence electronic control system applied from Rcom utmost technology
* High reliability temperature and humidity sensor applied produced by Sensirion, Swiss (ver. 3rd Generation of sensirion, Swiss)
* Transparent double insulated view window
* Sliding Air-vent able to control the air in the chamber
* Minimized temperature variation applied from Rcom optimum air flow technology
* Water heating system for evaporation eliminating bacteria
* Water level sensing & warning system
* Superb high density foam board for maintaining stable temperature & maximizing energy efficiency
* The safety device of the humidification-unit is attached on the Thermostat

[Useful Function] MAX 190 / 380 / 1000

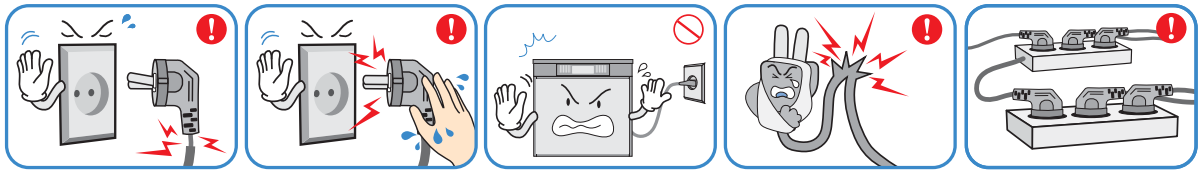
* Degree C / degree F interchangeable
* Hatching chamber equipped
* Egg turning stop on opening window
* Inbuilt humidifying system
* Warning & display function of abnormal temperature caused by ambient temperature fluctuation
* Incubation data memory and alarm function in case of blackout
* Equipped Water nipple in front for handy water supply
* Auto horizontal egg turner stop function & manual egg turner positioning function
* Each egg turner operation available selectively (Model No.: MX-1000C)
* Adjustable universal egg tray able to placing different eggs according to the species (sold separately)
* Top cover can be opened for easy cleaning and maintenance after hatching

[OPTION] MAX 190 / 380 / 1000

* Universal egg basket, ABS Divider

Electrical hazards

⚠CAUTION **Be careful the details below when you use.**



Do not use a damaged power cord or loose outlet.
▶ Risk of electric shock or fire.

Do not pull the cord when taking out the power cord, and keep wet hands away from connecting plug.

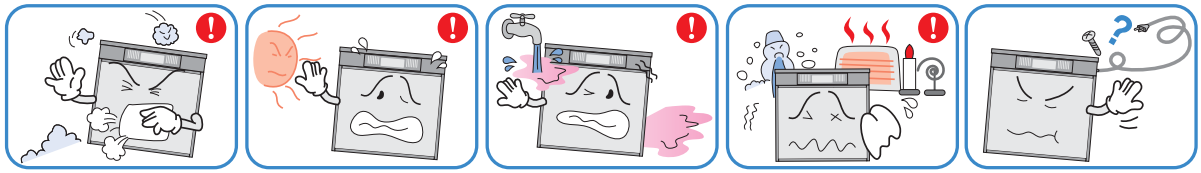
Never pull the plug out of the outlet during the incubation period.
▶ Incubation will be interrupted.

Do not twist or crush electric cord.
▶ Risk of electric shock or fire.

Do not insert multiple connecting plugs in an outlet.
▶ Risk of fire or electrical overload.

Setting Cautions

⚠CAUTION **Be careful the details below when you use.**



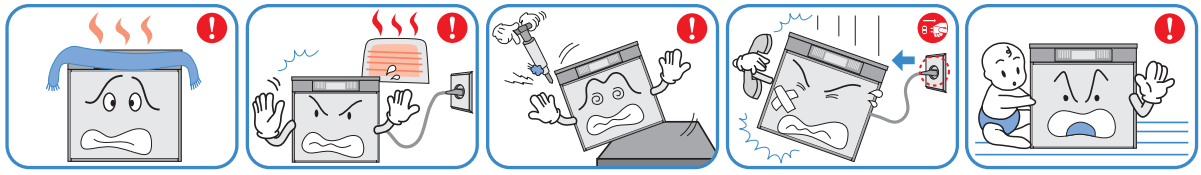
Do not install in dusty or dirty environment.
▶ Risk of damage or fire within the incubator.

Do not install under the direct sunlight.
▶ Risk of fire or interference with the incubation process.

Do not install in moist or humid environment.
▶ Risk of fire or electric shock.

Do not install in excessively cold or hot conditions, cigarette smoke, etc.
▶ Risk of interference with the incubation process.

Do not use any other non-standard parts except those provided.
▶ Risk of damage or hatching failure.



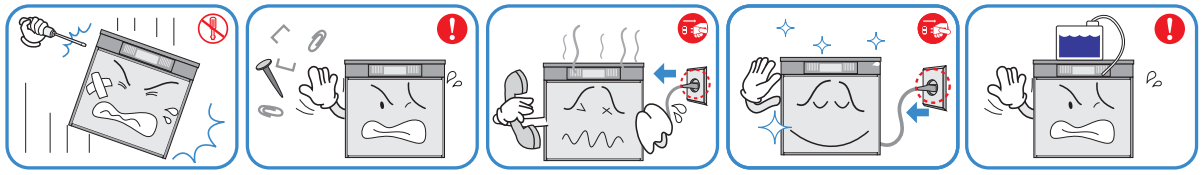
Do not cover the ventilating opening.
▶ Inner temperature can rise, interrupting incubation.

Install away from heat sources.
▶ Risk of damage to the incubator case and interference with the incubation process.

Ensure that the incubator is installed on a stable surface away from edges.
▶ Risk of damage to incubator and eggs and user from accidental knocks or drops.

If the incubator requires repair disconnect from the power supply and please contact to your service center.

Children should be supervised to ensure that they do not play with the appliance.
▶ Risk of knocking the incubator or accidental interference with the controls.



Do not disassemble or modify the incubator in any way.
▶ Risk if electric shock or fire.

Please ensure that no small objects get into the holes on the incubator.
▶ Risk of electric shock or fire.

If the incubator sounds strange or emits smoke contact your service center.
▶ Risk of electric shock or fire.

Clean the incubator thoroughly before storing.

Do not place water container on the incubator

Cleaning Cautions

⚠CAUTION **Be sure to disconnect the electric cord from the outlet before cleaning.**

Clean the incubator by a soft cloth with a neutral detergent.

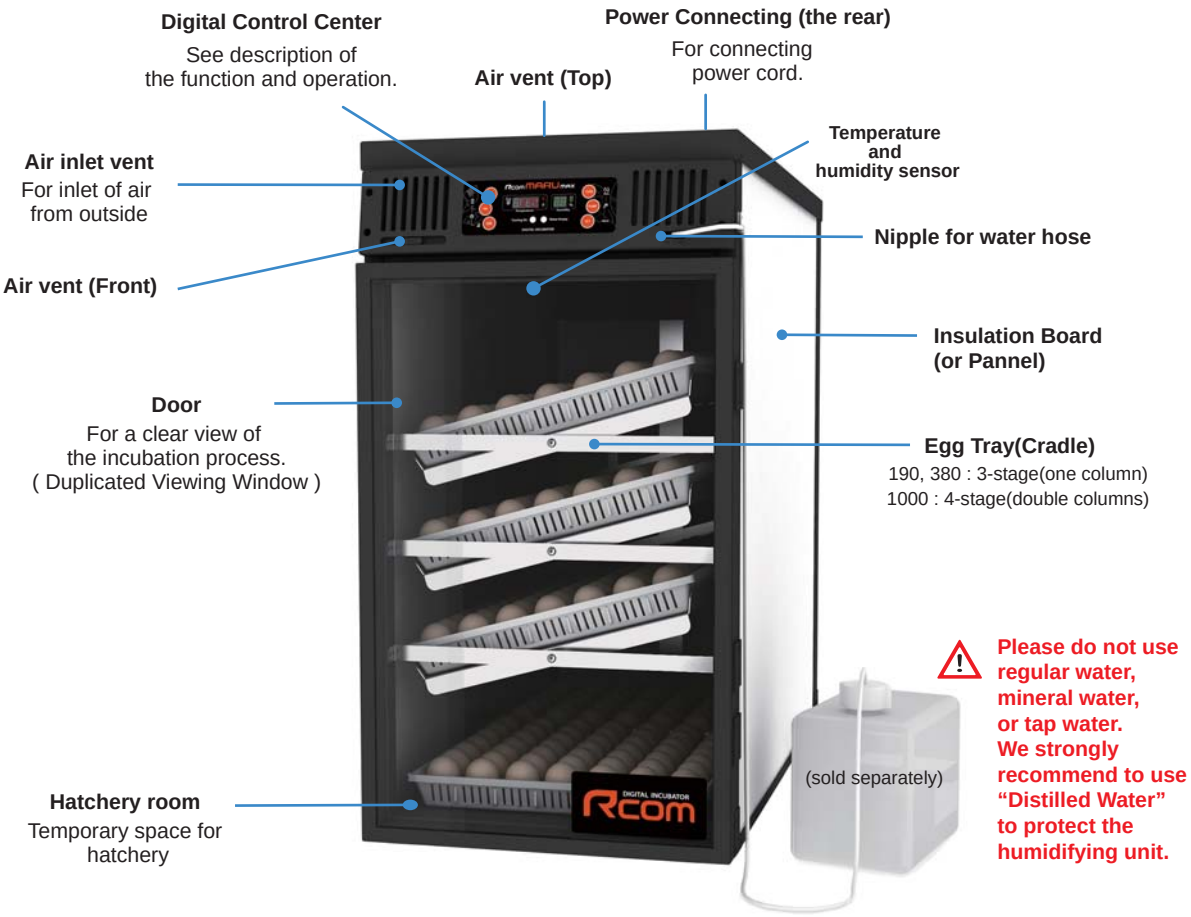
Brush away dust on the plug with a dry cloth.

Do not use chemicals like wax, benzene, alcohol, thinner, aromatic, or lubricant, etc.

For special cleaning of inner part per year, contact to the service center.
▶ If you don't clean the inside of incubator for a long time, dust can cause some trouble or a fire.

Identification of Parts

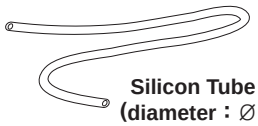
* MX-380C model image


Digital Control Center
See description of the function and operation.
Air vent (Top)
Power Connecting (the rear)
For connecting power cord.
Air inlet vent
For inlet of air from outside
Temperature and humidity sensor
Air vent (Front)
Nipple for water hose
Insulation Board (or Pannel)
Door
For a clear view of the incubation process.
(Duplicated Viewing Window)
Egg Tray(Cradle)
190, 380 : 3-stage(one column)
1000 : 4-stage(double columns)
(sold separately)
Please do not use regular water, mineral water, or tap water. We strongly recommend to use "Distilled Water" to protect the humidifying unit.
Hatchery room
Temporary space for hatchery
DIGITAL INCUBATOR
Rcom

Basic Components

Manual

Power Cord

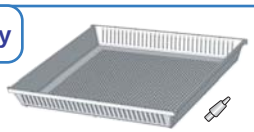


Silicon Tube : 1.5m
(diameter : ∅4*6)

Easy function operation

* Can be attached anywhere for easy viewing

Sold Separately



Universal Egg Basket / Basket support

MARU 190 Series 5EA / 4EA
MARU 380 Series 10EA / 8EA
MARU 1000 Series 24EA / 16EA

ABS Divider

MARU 190 Series 30EA
MARU 380 Series 60EA
MARU 1000 Series 160EA

(2EA)

(2EA)

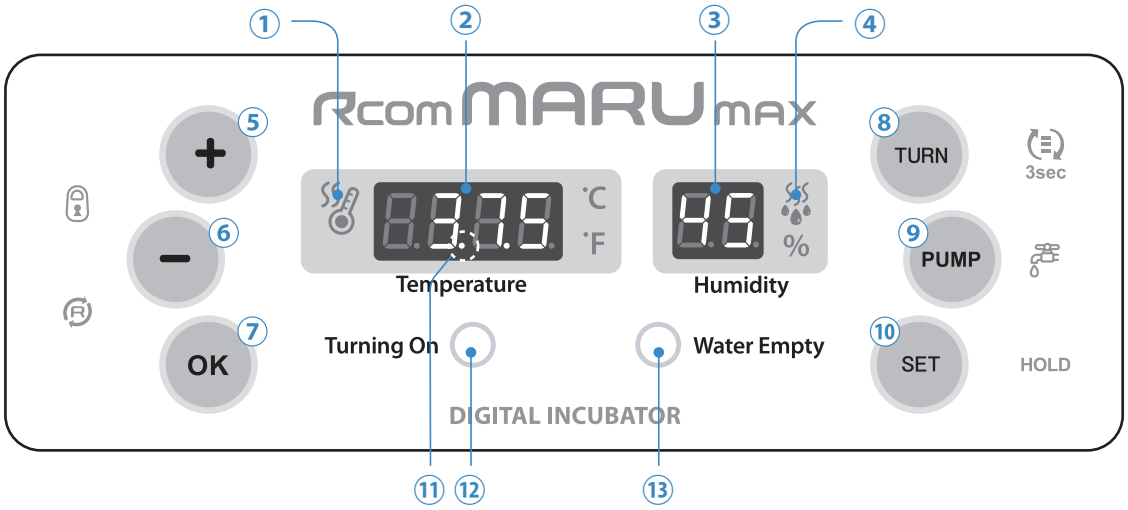
Piece : 28EA (16EA)

Rotary wheel, Bracket

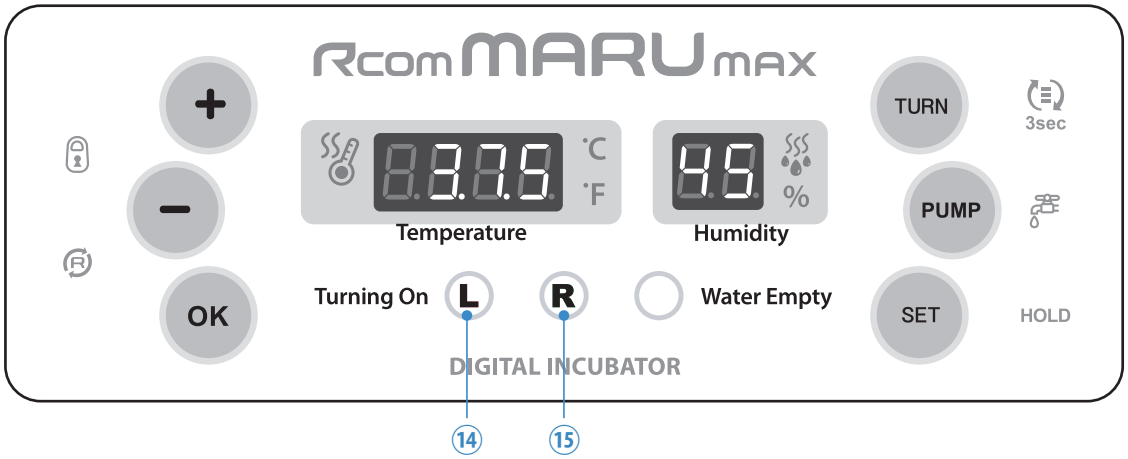
MARU 190 Series 4EA
MARU 380 Series 4EA
MARU 1000 Series 4EA

Name & Function of Operation Parts

Rcom MARU MAX 190 / 380



Rcom MARU MAX 1000



① Heater Operation Lamp : Light on when working

② Temp. Display : Current Temperature Display

③ Humidity Display : Current Humidity Display

④ Pumping System Operation Lamp : Light on when working

⑤ Up Button : Setting Temp. & Humidity UP / Calibrated Temp. & humidity UP (Manual egg-turning button)

⑥ Down Button : Setting Temp. & Humidity DOWN / Calibrated Temp. & humidity DOWN (Manual egg-turning button)

⑦ Menu Selecting Button : Setting Value save Egg Turning Melody ON / OFF

⑧ Egg-Turning Button : Egg-turning plate level (Setting egg-turning ON/OFF)

⑨ Pumping Button : Starting pumping motor for humidity

⑩ Safety Function Button : With other buttons together (Setting value check)

⑪ Power Failure Alarm Function : Blink with power failure (to remove, press SET button)

⑫ Egg-Turning Lamp : Turn on with automatic egg-turning mode. (Blink when working)

⑬ Water Supplement Lamp : Blink with water shortage

⑭ Turning on L Lamp : The light on while the left-side cradle working

⑮ Turning on R Lamp : The light on while the right-side cradle working

Easy Function Operation

* put some water after take off label from the back and attach to the window.

How to Set the Function

How to Set the Function	(+) + (−) ▶ tEP ▶ (+) or (−) ▶ O.K Start / Temp. / Default : 37.5°C (99.5 °F) ⇩ O.K ◀ (+) or (−) ◀ rH Default : RH 45% / Humi. ⇩ HI ▶ (+) or (−) ▶ O.K Abnormal High Temp. Alarm / Default : 2°C ⇩ O.K ◀ (+) or (−) ◀ LO Default : -3°C / Abnormal Low Temp. Alarm ⇩ C.F ▶ (+) or (−) ▶ O.K Cels. / Fahr. / Default : °C ⇩ O.K ◀ (+) or (−) ◀ trn (MAX 190 / 380) / trn1(L) (MAX 1000) Default : 1hour / Egg-Turning ⇩ trn2(R) ▶ (+) or (−) ▶ O.K Egg-Turning / Default : 1hour / MAX 1000 Finish	MAX 190 / 380 / 1000 MAX 1000 ONLY

Turning Off Humidification	RH 19% ▶ — — Display during no working	Pumping Motor Test	PUMP once	Working when incubator water is empty
Initialization (Factory Setting)	(−) HOLD + POWER IN ▶ rSt	Cradle Horizon Alignment	turn 3sec.	Horizon egg-turning will be done in terms of the setting
Forced manual Egg-Turning	(+) or (−) Manual egg-turning will be done in terms of the setting	Egg Turning ON / OFF	SET HOLD + turn	
Egg Turning ON / OFF	Default Turning both sides; SET HOLD + turn: Once Turning OFF ▶ Twice Turning on the left side ▶ 3Times Turning on the right side ▶ 4Times Turning both sides (Repeat)			
How to set the turning sound	Push O.K button more than 5 seconds (Basic set-up : Turning sound, ON)			

MAX 190 / 380 / 1000	
MAX 1000 ONLY	
MAX 190 / 380 / 1000	
MAX 190 / 380 / 1000	
MAX 190 / 380 ONLY	
MAX 1000 ONLY	
MAX 190 / 380 / 1000	

What is an Incubation Room?

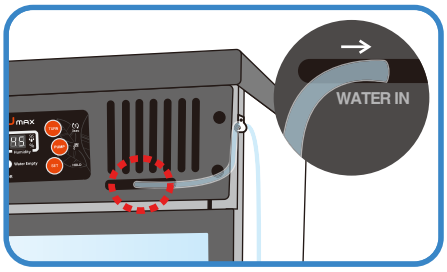
The Incubation Room is a confined space for setting and operating an incubator.
Because the incubation room environment has a considerable effect on hatch rate, it's recommended to control the environment for setting up an incubator; there should be little noise and vibration around and temperature ranging 28℃(82.4˚F) with small variation in temperature.
Especially, if there are frequent occasions when the temperature drops suddenly at night, compared with daytime, be sure to check from time to time and pay attention so that the incubator is not directly exposed to sunlight during daytime.

⚠ **If you set high temperature, condensation will occur and may causes licking water from the incubator and it is not a technical problem. You need to keep temperature between 28℃ (82.4˚F).**

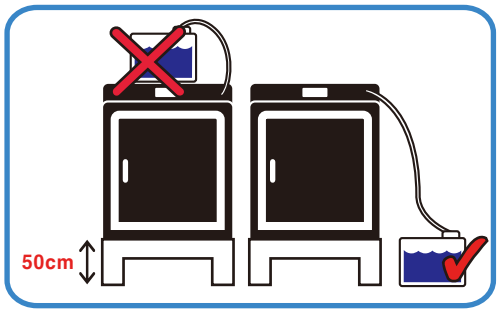
How to Install Incubator

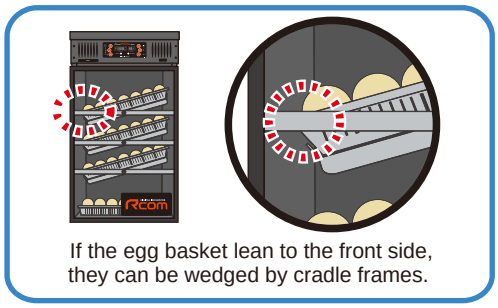
- ▶ Please set the incubator flatways on the strong and 50[cm] or above tallish table.
- ▶ In case of the level surface is indentation, it might occur a gap because of door is not completely closed.
- ▶ Connect silicon tube to the nipple of incubator, and the other side of silicon tube should be put in the water container.

⚠ **Do not place water container on the incubator. It might overflow from the humidity unit.**



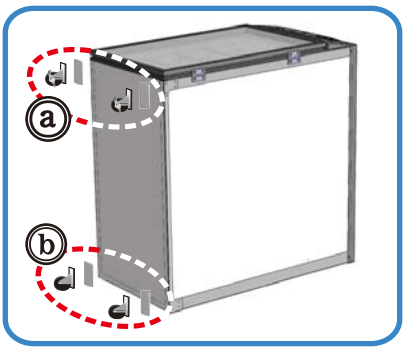
⚠ **If you use Mineral water or Tap water for humidification, the humidity unit can be broken easily because of water scales. We strongly recommend you to use only "DISTILLED WATER" for your machine, and Autoelex Co.,Ltd & our distributors do not indemnify for warranty service not only if you have any problem with using mineral water, regular water, tab water and the like but also if you had improper management or handling for your machine. In this case, Autoelex Co.,Ltd. & our distributors will charge for your after service.**



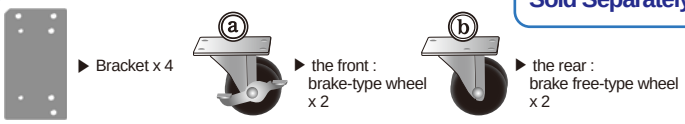


If the egg basket lean to the front side, they can be wedged by cradle frames.

How to assemble the rotary wheel [Options]



Sold Separately



lay down cautiously the machine :
bracket-wheel-screw in seguence
ⓐ for the front 2wheels, assemble brake-type wheel
ⓑ for the rear 2wheels, assemble brake free-type wheel
Once the assembly done, put up the assembled incubator with care

⚠ when in lay down or put up incubator, be careful not to be damaged.

Preparation for Incubation

▶ When the power cord is plugged into power after the power cord is connected to power connecting in the rear, the digits on the temperature and humidity FND appear and temperature and humidity is moderately getting increased. Even though you can smell bad, it is normal.

⚠ Do not connect power supply before the incubator is assembled completely. Risk of electric shock.

▶ Please check and refill water every 2 days during incubation.
(If the water tank is small, please check everyday.)

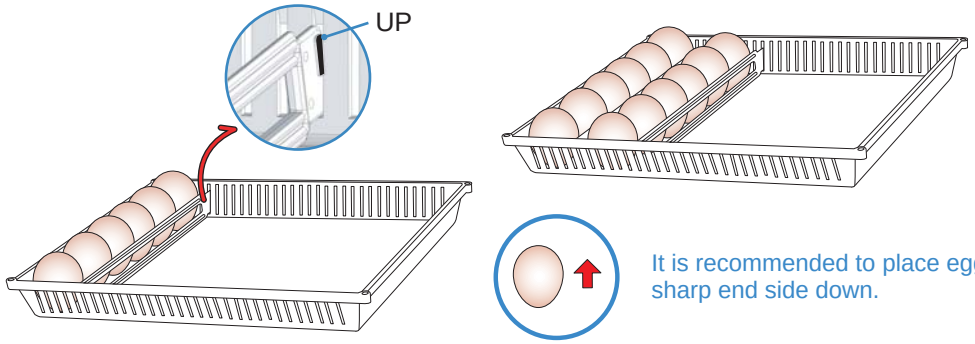
⚠ In case you use the incubator without adding humidification water or intend to incubate eggs at low humidity under RH 20%, you must stop its humidification function. please turn off the humidity unit if the unit is empty water otherwise, humidity unit will be broke or you may not no longer use the unit.
(When using this function, the alarm for sensing water drop will go out.)
[See the description of humidification function OFF on Page 12]

※ How to turn off Humidification Function : Set humidity under RH 20%.

⚠ **If you use Mineral water or Tap water for humidification, the humidity unit can be broken easily because of water scales. We strongly recommend you to use only "DISTILLED WATER" for your machine, and Autoelex Co.,Ltd & our distributors do not indemnify for warranty service not only if you have any problem with using mineral water, regular water, tab water and the like but also if you had improper management or handling for your machine. In this case, Autoelex Co.,Ltd. & our distributors will charge for your after service.**

▶ place eggs adjusting dividers in terms of the egg size.

⚠ Be sure to fit eggs to space made by two dividers.



It is recommended to place eggs with sharp end side down.

▶ Perform the horizontal alignment by pressing (TURN) button for 3 seconds. In case the horizontal alignment is not completed successfully, you can adjust manually by pressing + , - button.
(Do not open the door while the alignment is working.)

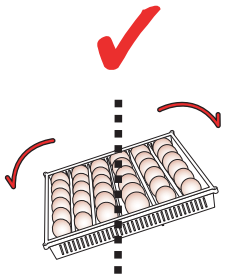
▶ Before placing an egg basket in the incubator, be sure to power off the incubator or to turn off the egg turning.

▶ Before placing eggs in the incubator, it is recommended to turn on and stabilize the temperature of incubator for a few hours.

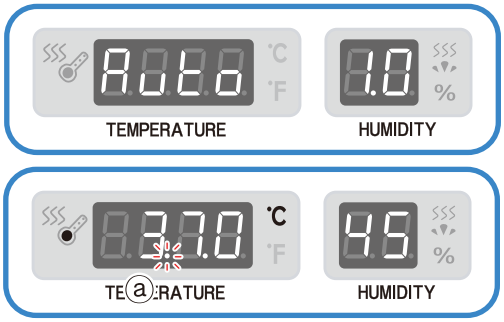
⚠ Be sure to close the door completely; if not, the temperature and humidity will fail to go up.
please check if the machine's floor is wet or not, otherwise you may not reach the normal temperature.

Tip The egg to incubate must be a fertilized egg.

⚠ Please make it balanced when puting eggs on the egg basket.



How to start incubation



▶ For the first two seconds, after power on, FND blinks and the pump starts working (until water is filled: In case of water shortage it works for 2min.) and for another one second, the version will be displayed on FND.

▶ After version indication, buzzer sounds for about 15sec. At the same time, present temp. & humidity displayed and power failure alarm indication ⓐ is blinking.

▶ Press (O.K) button to remove buzzer and alarm indication.
(Buzzer will be removed automatically after 15sec.)

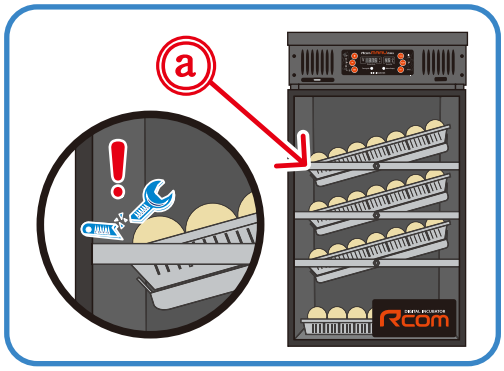
※ Notice of Power Failure : If power is turned off and then on again because of power failure or by mistake, first dot will blink.

Tip Quick Start : If you just connect power, it automatically starts incubation with factory setting.
[Factory setting : Temperature 37.5℃ (99.5℉), Humidity RH 45%]

▶ Incubator display current temperature and humidity, and it goes to setting conditions within an hour.

※ The artificial intelligence system memorizes and classifies ambient conditions for keeping optimum temperature, and temperature can move up slowly at the first stage.

Egg Turning



▶ **3days before incubation, please be sure to stop egg turning in tray and remove divider.**

⚠ Be careful! Chicks might be caught in turning cradle.
If the egg basket are located out of frames ⓐ,
it cause problem for egg turning device.

▶ How to align horizontally : Press (TURN) button for 3 seconds to align.

▶ How to turn trays manually : Press (+) or (−) button to adjust the tray-turning manually while the incubator is working.

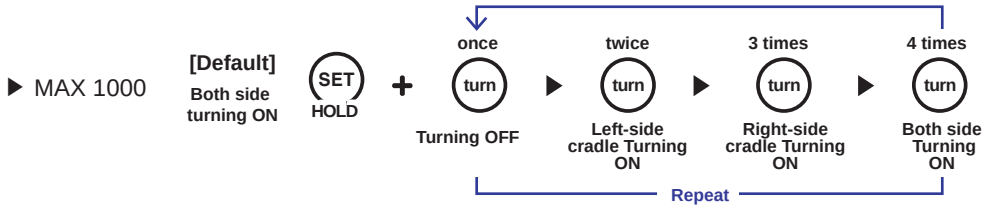
※ For MAX 1000 , Turning on L and R lamp indicates which side cradle is turning.

⚠ Be recommended to hatched in special hatching room. chickens in hatch are easily exposed to the risk of failing down or being caught in crevice to death occasionally
Please don't forget to turn off the turning function at this time.

How to Set Egg Turning ON/OFF

▶ MAX 190 / MAX 380 : Press (SET) button to change setting while pressing (TURN) button.
[Default : Turning on-Turning ON Lamp on] Turning off - Turning ON Lamp off

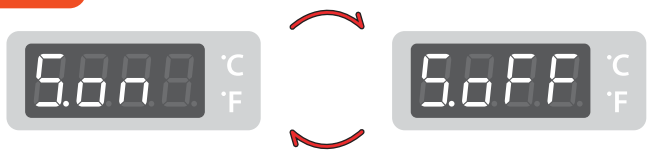
▶ MAX 1000 : Turning Lamp L and R indicates which side cradle is turning.
[Default : Both side turning - Turning Lamp L and R on]



⚠ Recommend to hatch in special hatching room. chickens after hatch are easily exposed to the risk of failing down or being caught in crevice to death occasionally Please don't forget to turn off the turning function at this time.

Egg Turning Melody ON / OFF

▶ Please press (O.K) button over 5 seconds to turn ON or OFF egg Turning Melody.



Humidification

▶ All kinds of bird need over RH 65% humidity during the period prior to hatching.

▶ How to turn humidification off : When you don't need the humidification function with your working incubator, you can turn off by setting RH 19% in the humidity setting mode. The mark " -- " appears on FND and the humidity function stops.

▶ Indication of water shortage : When the sensor detects low water level, water empty lamp is turned on. Lasting water shortage causes turning water empty lamp on, blinking of humidity working lamp and alarm ringing.

▶ How to test a pumping motor : Press (PUMP) button while your incubator is working and then the pump motor starts working.

Tip In case of water shortage, it works. When the inside of the incubator is filled with water, the pump motor works for 0.5 second.(Check motor working sound)

⚠ please turn off the humidity unit if the unit is empty water otherwise, humidity unit will be broke or you may not no longer use the unit. so please turn off the humidity unit.

⚠ **If you use Mineral water or Tap water for humidification, the humidity unit can be broken easily because of water scales. We strongly recommend you to use only "DISTILLED WATER" for your machine, and Autoelex Co.,Ltd & our distributors do not indemnify for warranty service not only if you have any problem with using mineral water, regular water, tab water and the like but also if you had improper management or handling for your machine. In this case, Autoelex Co.,Ltd. & our distributors will charge for your after service.**

Incubation Termination

Tip No power switch for the incubator.

▶ The power cord should be unplugged to turn the incubator off after hatching.

▶ Rcom MARU MAX 190 / 380 / 1000 do not need to be initialized after hatching. When you need the same condition as the previous set, all you need to do is to plug in your incubator.

Humidity & Air Maintenance During Incubatiron

- When hatching, humidity should be relatively high to prevent the thin membrane from drying out or hardening before hatching.
- When hatching, it's recommended not to open the door often.This is because if you open the door often humidity will be rapidly decreased and it will take a long time to regain the proper humidity.

⚠ **Incubator internal temperature is 37℃ (99.5°F) or more, and hatching room temperature is below 28℃, in that case, RH70% humidity is may not be able. The difference of ±5% humidity value may occur from the humidity sensors difference, and there are no problems at hatching**

- It's very important to maintain humidity higher 1~2 days before hatching than the early and middle incubation periods. Humidity requirements during incubation are RH 45~55% for waterfowl, RH 40~45% for poultry and RH 35~45% for parrot, in general. One day before hatching, all kinds of birds need about RH 65% humidity and sometimes need higher than that.
  However, in areas of high ambient humidity, lower levels of humidity may be needed during incubation.
- Air Controlling Lever : Outer fresh air can be flowed into incubator inside without affecting insulation. When eggs start hatching, open air controlling lever either fully or half-open.
- It is normal that wa ter might leak in case of high humidity.
- If the temperature where incubator installed is high, it will effects to incubator' setting temperature. In this case, you are able to adjust temperature by Air ventilation on the top of machine.

You can adjust Air Ventilation

1/4 open | 1/2 open | close | wide open

⚠ If you set high temperature, condensation will occur and may causes licking water from the incubator and it is not a technical problem. You need to keep temperature between 28°C (82.4°F).
Especially during at night, temperature drops dramatically from time to time in winter season so maintain inner and outer temperature is important to prevent condensation.

Maintenance after Hatching

- It is necessary to use a brooder for baby chicken or bird since they are too week against cold or cool environment. If you try egg-hatching in your incubator, there would be lots of germs, feathers, which causes of low egg hatching possibility for your next hatching. Also, they can make your incubator broken or faulty.
  We strongly recommend you to use independent Hatcher or Brooder for egg-hatching.
  If you have any faulty or broken because of not using independent Hatcher or Brooder, we do not serve you the free warranty service. In other words, you have to pay for the service charge.
  To make a simple Hatcher or Brooder, please refer to the our web-site (www.Rcom.co.kr).

⚠ Please do not try to egg-hatching in the incubator. It makes your incubator broken or faulty, and we do not give you free warranty service. (Please move all the eggs 1~3 days before hatching into Hatcher or Brooder.)

Tip Hatcher : The machine for egg-hatching. Operate it 1~3 days before egg-hatching. (Rcom MARU H&B)
Brooder : The machine makes baby chickens or birds warm up against cold or cool environment. You can set up proper temperature and humidity. (Rcom MARU H&B / Rcom Brooder Series)

- As there is some difference in chick feed for each kind of bird, so it's desirable to obtain useful information about the chicks before hatching.

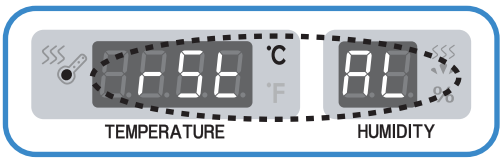
Dew Condensation

- Dew condensation is natural phenomenon which can be occurred when incubator inner temperature is big different from outer temperature.
  So, water can leak from the incubator during humidification, which is normal.
  Appropriate Incubator internal temperature is between 28℃ (82.4°F).

Return to Factory Setting

▶ This function is for return incubator to factory setting.

▶ Unplug power cord. Replug during (−) button is pressed. Then, "rSt AL" will indicated in display, and H&B returns to factory setting.(Default setting)



Tip Calibrated temperature and humidity will also return to factory setting.

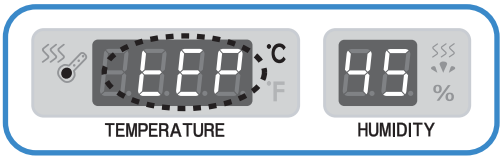
Temperature Setting

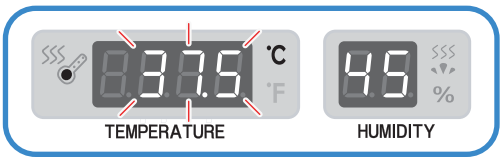
▶ Press (+) and (−) button at the same time then " tEP " will be indicated for about 0.5sec. and then temp display will blink.

▶ Then, you can adjust temperature with (+) and (−) button.
[Default setting: 37.5℃ (99.5°F)]

▶ After setting required temperature, press (OK) button once then setting will be stored. Next, "rH" will be indicated in humidity display for about 0.5sec. and then humidity display will blink.

※ Just press (OK) button if you do not need to change setting.





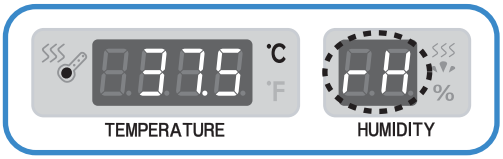
Humidity Setting

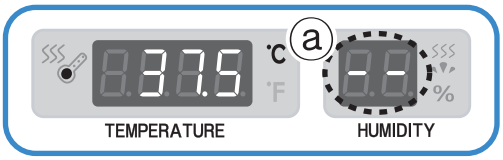
▶ When humidity display is blinking, adjust humidity setting with (+) or (−) button.
[Default setting : RH 45%]

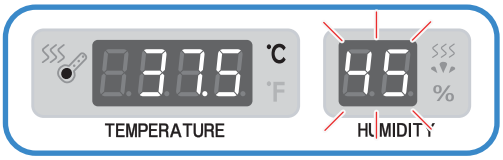
▶ If you keep pushing (−) button under 19, humidity device is off and it shows as ⓐ

▶ After setting required humidity, press (OK) button once then setting will be stored. Next, "HI"(abnormal high temp. alarm) will be indicated for about 0.5sec.
and then abnormal temp. alarm setting value will blink.

※ Just press (OK) button if you do not need to change setting.







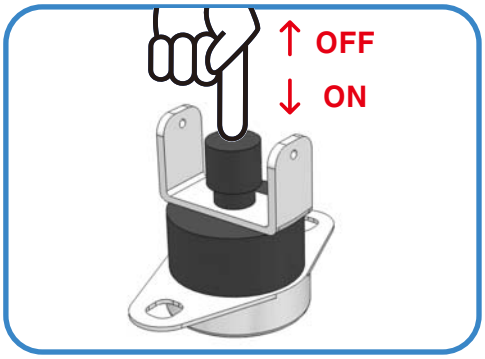
Tip Temperature and humidity is optimized when Rcom products are released.
We do no recommend customers to recalibrate by their own. If you need to recalibrate, please visit our website (www.rcom.co.kr→Download→Manual) or ask purchase place.
Because of low price thermometers and hygrometers are not accurate, e recommend you to use special calibrated thermo-hydrometer. (Poultry only thermo-hydrometer: check Rcom website: Digilog Ⅱ)

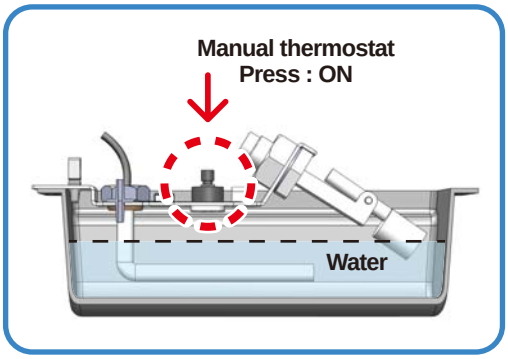
How to preserve the humidification-unit part

▶ To maintain the temperature to be level as normal in humidification-unit, the manual type thermostat is applied to the area shown in picture. just push the knob shown in picture, unless the water get to be heated in spite of staring the humidification function.

▶ When the humidity unit is not working even if you keep pressing the thermostat knob to downward or it keeps turned off automatically, please contact our customer service.

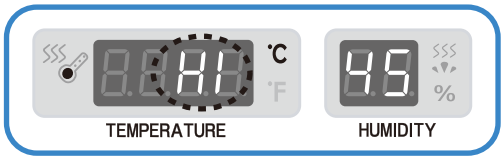
⚠ warning : when you touch the thermostat swithch, please make sure the power cord is plugged out.



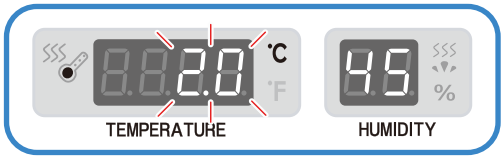


How to Set Abnormal High Temperature Alarm

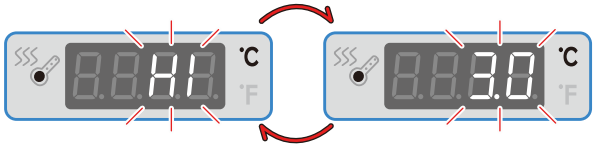
▶ Adjust abnormal high temperature value with ⊕ or ⊖ button. [Default setting : 2°C]



▶ After setting required value, press O.K button to save. Then, it will go to the next stage, abnormal low temp. setting with display "LO"(abnormal low temp. alarm) for about 0.5 sec.



Tip Abnormal High temperature:This function gives notice when incubator temperature is higher than setting temperature because of abnormal ambient temperature increase.
When room temperature is higher than incubator temperature, this function works with buzzer.
Here, "HI" and temp. gap are displayed alternatively.
Press OK button to remove buzzer.

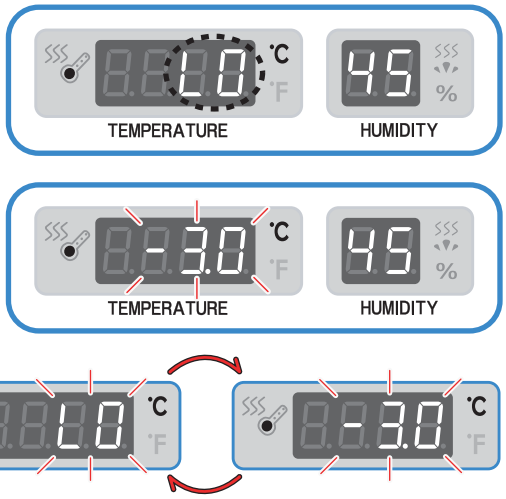


How to Set Abnormal Low Temperature Alarm

▶ This function gives notice when incubator temperature is lower than setting temperature because of abnormal ambient temperature decrease.

▶ Adjust abnormal low temp. setting with ⊕ or ⊖ button. [Default setting : -3°C]

▶ After setting required value, press O.K button to save. Then, it will go to the next stage,°C & °F change.

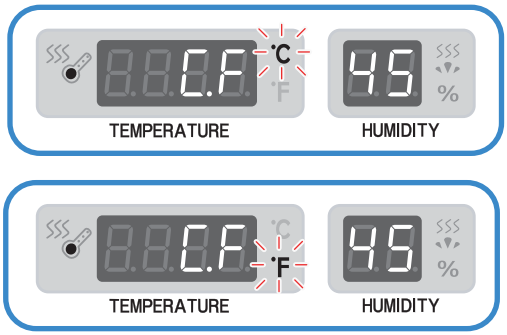


Tip Abnormal Low Temperature: " LO" will indicated on LCD.
(The others, same with abnormal high temp. alarm function.)

How to change Centigrade & Fahrenheit

▶ Select °C or °F with ⊕ or ⊖ button.

▶ After selecting °C or °F , press O.K button to save. [Default setting : °C]



▶ Press O.K button after choosing Centigrade or Fahrenheit to save what you change, and then set value is blinking after "Trn"(set turning cycle) is displayed for 0.5 second on temp FND for MAX 190 / MAX 380 to go to next stage. For MAX 1000,
set value is blinking after "Trn1" (set turning cycle for left-side cradle) is displayed for 0.5 second.

Tip How to change Centigrade value to Fahrenheit °C = 5/9 (°F - 32)

※ Just press O.K button if you do not need to change setting.

Egg Turning Interval Setting

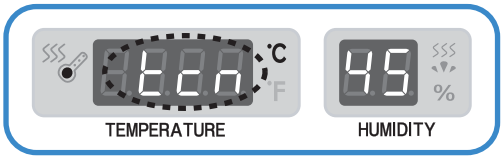
[Rcom MARU MAX 190 / MAX 380]

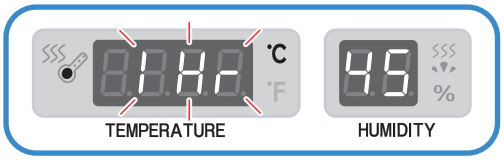
▶ Press (+) or (−) button to increase or to decrease value in the set mode of turning cycle (blinking of set value). [Default:1hr]

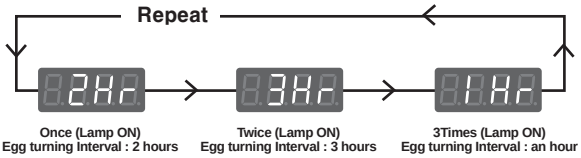
Tip control range : 1hr ~ 3hrs

▶ Press (O.K) button after setting value to save what you change and then the newly set values of temperature and humidity are displayed.

⚠ Be sure to stop egg turning 3 days before hatching. [Refer to the Page 12]







[Rcom MARU MAX 1000]

▶ Press (+) or (−) to increase 1hr or to decrease 1hr in the set mode of turning cycle(blinking of set value). [Default:1hr]

Tip control range : 1hr ~ 3hrs

▶ Press (O.K) button after setting value to save what you change, and then the newly set value is blinking after 'Trn2'(set turning cycle for right-side cladle) is displayed for 0.5 second to go to next stage.

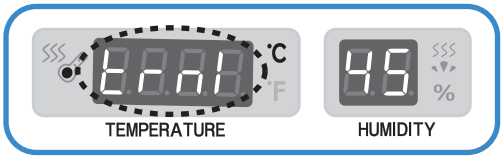
※ Press (O.K) button to skip this stage.

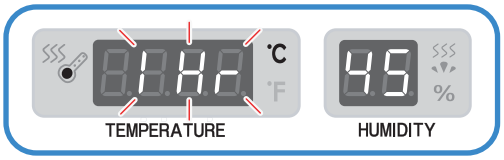
▶ Press (+) or (−) button to increase or to decrease value in the set mode of turning cycle. (blinking of set value) [Default:1hr]

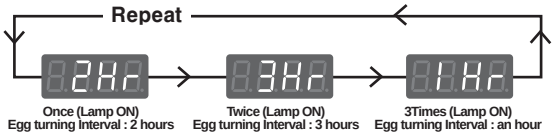
Tip control range : 1hr ~ 3hrs

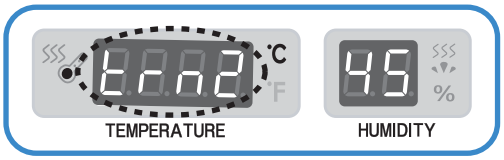
▶ Press (O.K) button after setting value to save what you change and then the newly set values of temperature and humidity are displayed.

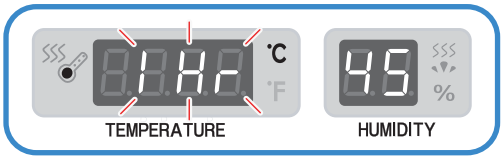
⚠ Be sure to stop egg turning 3 days before hatching. [Refer to the Page 12]











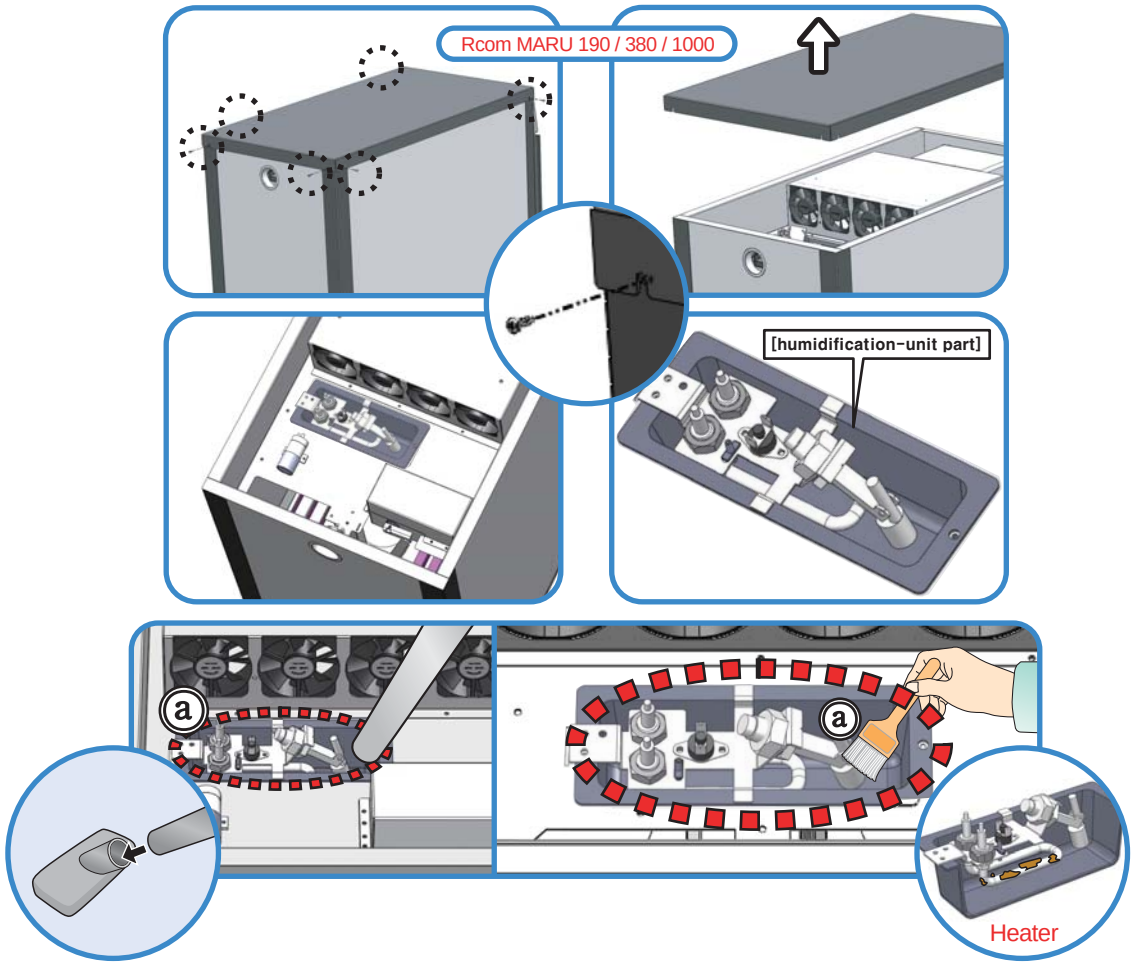
Disassembling and Cleaning the Incubator

⚠ Be sure to remove power before cleaning.

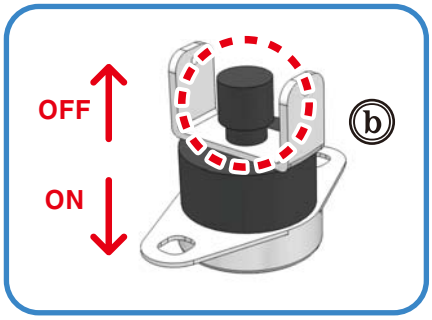
▶ If you turn off incubator and then let the incubator with door closed after high humidity incubation, moisture inside of the incubator evaporates and sticks to electric device. This could cause problem, and be sure to open door of incubator and completely remove moisture inside of incubator.

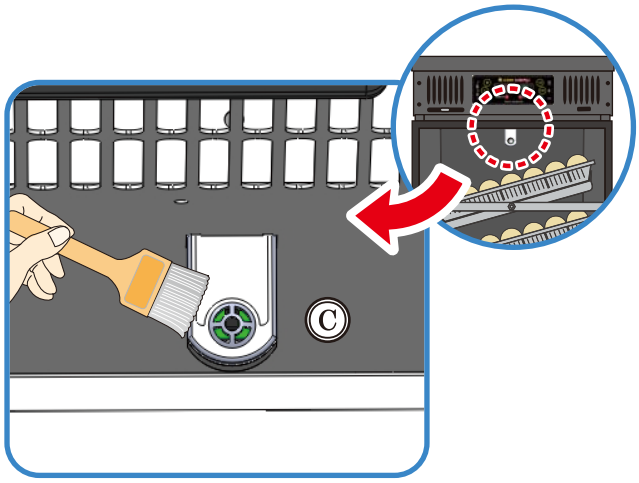
[Cleaning of Control Part]

▶ Loosen screws on the top of the incubator as the below pictures, and lift up the cover to open.
▶ Remove water inside of incubator.
▶ Open the maintenance cover and remove all dust and foreign thing on the humidification unit and the fan with brush.
▶ After cleaning, reassemble the maintenance cover again.
▶ Please clean up the humidification unit and the fans after egg hatching.



⚠ When scratched or hit by something, humidification heater ⓐ can be damaged. when open the top cover, be sure to pull electric cord out and get rid of water dirt, Please be sure to remove the harden dirty substance on the heater surface when cleaning after hatch.





▶ ⓑ Thermostat S/W knob : when over heated in humidification area, automatically functioned "OFF". However, humidification area goes back to normal function when pressed down after getting rid of the cause of abnormal high temperature. Please make sure to notnly "ON" signal show the humidity heater in operation.

▶ ⓒ Temperature and humidity sensor : lie in upper part inside incubator. occasionally. fur, dirt or water disturb the accurate measurement of temperature&humidity. Please clean up furs or dirts with soft brush.

▶ Please make them assembled by the reverse procedure.

[Cleaning of Incubator Inside]

▶ After hatching, remove egg basket and divider inside of incubator, and clean the inside with vacuum cleaner. Tiny dust should be removed with brush again.

Tip After several hatching, dust or bird feathers can stick to the incubator inside which maybe cause malfunction. So, you should to clean the incubator carefully after every time of hatching.
[The life span of the evaporating heater can be reduced when used without cleaning.]

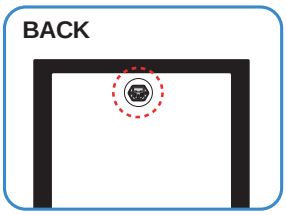
⚠ When the condition of dirty substance cleaning, it can create fan-noise or further fan-stop

▶ Clean the egg basket and dividers with water and an antiseptic solution, and then dry naturally or operate incubator temporary to dry them.

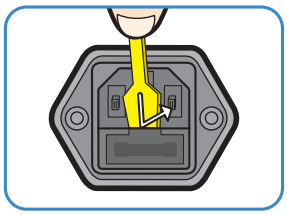
⚠ Be careful not the moisture gets into the power connecting part on the backside of incubator.

⚠ Do not clean the incubator with benzene or thinner. Risk of transformation or decolorization.

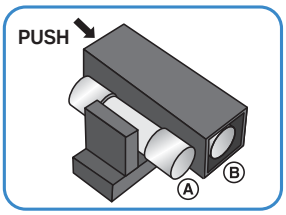
How to Replace Fuse



▶ Fuse is located at the top of power connection part on back side of incubator.



▶ When the fuse is damaged, remove the fuse at the inside below of power connection part, with screwdriver.



▶ Replace A(Used Fuse) fuse with B(Spare Fuse) fuse.
For AC 100V use :
250V 5.0A Ø5*20mm
For AC 230V use :
250V 3.0A Ø5*20mm

Servicing

All our Rcom digital products of Autoelex Co., Ltd. are made by precision systems under strict quality control. But occasionally some defective products are found on the way of their distribution.
If any problem occurs, then please contact Autoelex service center or distributorsin your country.
We will do our best to solve the problems, if any, for you. This product is designed in modular mode, so for its repair, if any, a qualified person can replace the part concerned with ease.

* Complaint Department : 82-55-337-2560 ∗ E-mail Receipt : Rcom@Rcom.co.kr

Troubles	Expected Causes (Possibility)	Countermeasures
In case hatching rate is low	▶ When the egg is an unfertilized egg. ▶ Getting infected by germs ▶ Wrong incubation setting ▶ Health condition of mother bird ▶ Improper egg turning	▶ Inspect the egg to check possibility of egg surviving. ▶ Disinfect the incubator. ▶ Check all settings of incubator. Especially, check them focusing on the temperature. ▶ Review care of health of mother bird. ▶ Check if egg turning is normal.
When a chick hatches out earlier than expected or a deformed chick hatches out	▶ Setting temperature high ▶ Egg turning was not operating normally	▶ Lower temp. setting of the incubator about 0.5℃(1℉) ex) 37.5℃ (99.5℉) → 37.0℃ (98.6℉) ▶ Check if egg turning function is OFF
When a chick hatches out later than expected	▶ Setting temperature low	▶ Raise temp. setting of the incubator about 0.5℃(1℉) ▶ ex) 37.0℃ (98.6℉) → 37.5℃ (99.5℉)
When hatching dates are so different from each egg (When all chicks don't hatch out at the same time but over a long period)	▶ Eggs stored for different lengths of time ▶ Diffferent incubation temperatures	▶ Minimize the time to store egg properly. ▶ Check Temperature difference in the incubator. (sunlight, temp of incubation room, etc.)
When intending to hatching various eggs at the same time	▶ Incubation days are different, so hatching rate falls down. ▶ Eggs might be contaminated by chicks that hatched first.	▶ Mark hatching date on eggs and move them to other incubator (brooder) just on the marked date. ▶ In case of putting in many eggs at the same time, it's convenient to prepare a spare incubator available as a brooder

Troubleshooting

For more detail, please check our website at www.Rcom.co.kr diagnosis

CIRCUMSTANCE	ITEMS TO BE CONFIRMED	SOLUTIONS
No signs of power to the incubator.	▶Check electric cord is properly connected. ▶Check if there is a power outage. ▶Check whether the plug is damaged.	▶Connect the cord again. ▶Check the main socket with any other electric appliances. ▶Try to insert to another outlet.
Temperature will not go high enough.	▶Check your setting temperature. ▶Initialize the incubator. [Refer to the page 14] ▶please check the bottom of machine is wet or not.	▶Set the temperature as required. ▶please remove moisture. ▶Please put the water tank on the floor and use.
Alarm sounds with "HI" indication (abnormal high temp.)	▶Check if room temperature is too high ▶Check if incubator is exposed to the direct rays of sun ▶In case of lowering temperature. ▶Check water for humidity.	▶Adjust room temperature 28℃ (82.4℉) ▶Install incubator without the direct rays of sun ▶Return incubator to factory setting [Refer to page 14]
Alarm sounds with "LO" indication (abnormal low temp.)	▶Check if room temperature is too low ▶Check if incubator heater(temperature controlling-system) is normally working ▶please check the bottom of machine is wet or not.	▶Adjust room temperature 28℃ (82.4℉) ▶Place thermometer inside of incubator and check if setting temperature is correct ▶please remove moisture. ▶Please put the water tank on the floor and use.
Humidity will not go high enough.	▶Check your setting humidity. ▶Close the door again after checking. ▶Initialize the incubator. [Refer to the page 14] ▶Check if pumping is working. [Refer to the page 12] ▶You need to confirm that if the thermostat S/W knob is side up in the humidity unit section.	▶Supply water. ▶Check if silicon tube is blocked ▶Set the humidity again as required. ▶Clean the humidification unit.[Refer to page 18~19] ▶Press Thermostat knb of S/W in humidification-unit [Refer to page 18~19]
The machine makes some noise. - A little noisy occurs from the inside of circulation fan.	▶Check if there is any hatching debris such as feather or eggs-shell in the incubator FAN. ▶A little noisy is not faulty.	▶Remove power and then open maintenance cover to clean the FAN for air circulation. [Refer to page 19]
Egg-Turning fails to work.	▶Check that the Egg-turning stoppage is not activated. (Egg-turning lamp lighting) ▶Check that there are no foreign items on the egg turning tray. ▶Check if egg turning plate is assembled correctly. ▶Please confirm if any divider are not stuck in the middle of machine	▶If you need to turn the eggs, you can manually re-start egg-turning.
Dew foams in the incubator.	▶Check the incubator is not placed too cold circumstances. ▶When you turn OFF incubator and then turn on. ▶In case of setting high humidity	▶Adjust room temperature between 28℃ (82.4℉) ▶Dew condensation is normal. ▶It is normal.
Water leaks from the machine.	▶Check if you did not place the water container on the incubator. ▶Check that the incubator placed on inclined surface. ▶Check if it is Dew condensation	▶Place water container on the bottom. ▶ Place incubator under a level surface.

⚠ Be sure that the incubator works without any problem before placing eggs in the incubator.

Specification

1-1 Name : Rcom MARU 190 / 380 / 1000 (Cradle Type)
1-2 Model : MAX CT Series

NAME	CT Series Model No.	Capacities [Chick egg size]	Egg Turning Method	Egg turning angle [˚]	Egg turning Interval [min]	Egg Turning ON/OFF per floors	Functional Ranger
Rcom MARU MAX 190	MX-190C	168	Cradle	0, 90˚ (±5˚)	0,60,120,180	1rows egg Turning ON, OFF	temperature: 20~42℃ (68~107.6℉) humidity: 20~70%
Rcom MARU MAX 380	MX-380C	336	Cradle	0, 90˚ (±5˚)	0,60,120,180	1rows egg Turning ON, OFF	temperature: 20~42℃ (68~107.6℉) humidity: 20~70%
Rcom MARU MAX 1000	MX-1000C	840	Cradle	0, 90˚ (±5˚)	0,60,120,180	1rows egg Turning ON, OFF 2rows egg Turning ON, OFF	temperature: 20~42℃ (68~107.6℉) humidity: 20~70%

NAME	CT Series Model No.	Humidification Device	Option	The number of Trays	Dimensions (W*L*H) [mm]	Weight [Kg]	Maximum electric power [W]	Average electric power [W]
Rcom MARU MAX 190	MX-190C	○	Egg basket ABS divider	3 floors×1row	425*473*765	25	440	70
Rcom MARU MAX 380	MX-380C	○	Egg basket ABS divider	3 floors×1row	425*790*765	30	440	70
Rcom MARU MAX 1000	MX-1000C	○	Egg basket ABS divider	4 floors×2row	845*790*890	53	440	70

⚠ We are not allowed to extend warranty therefore we ONLY provide 1 year warranty service.

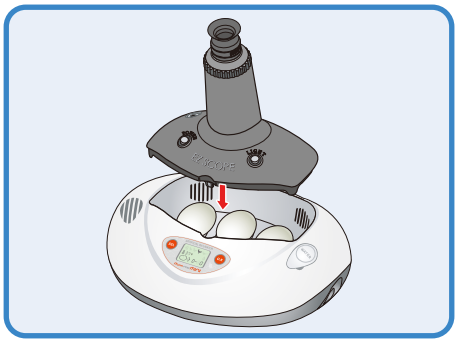
⚠ You will be asking for service charge if you are in below cases.
1. Broken or Problem caused by 'No cleaning' or 'Improper handling'
2. Broken or problem caused by 'Not using distilled water'
3. Broken or problem caused by 'Trying Bird hatching in incubator'
   (Please don't try bird hatching in incubator. Please use Hatcher during bird hatching.)
4. Broken or problem caused by 'Wrong controling(Using)'
5. Broken or Problem caused by using the machine out of User's Manual.
6. Broken or problem caused by 'Customer's mistake or fault'

※ Product Registration Procedures
If you are a new member of Rcom, you need to log in our website at www.Rcom.co.kr
1. Click "SIGN UP" on top of the right corner.
2. Fill out the information on the blanks.

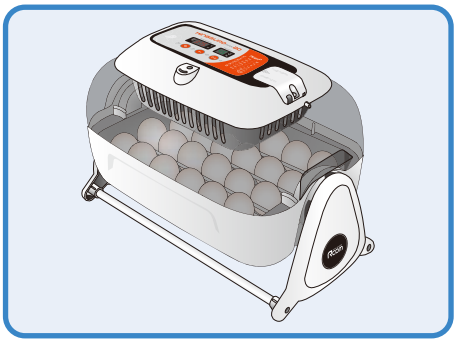
If you already registered your information on the Rcom website, please log in to www.Rcom.co.kr.
1. Click "Login" on top of the right corner.
2. Select "Customer" and click "Register Products".
3. Fill out the information on the blanks.

You will need below information to register on our website.
1. Your name
2. Your (home/company) address & Email address, country
3. Your product(model) name & Serial number
4. Date of purchase & Name of purchased shop you bought from

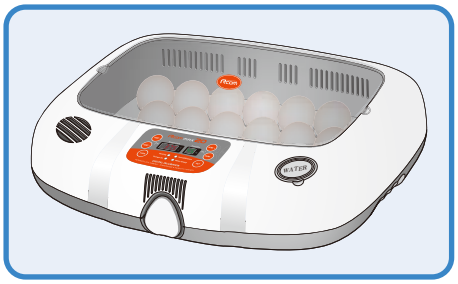
Rcom Incubator Series



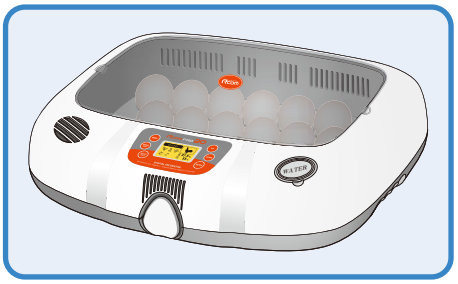
Rcom PRO MINI (PX-03)



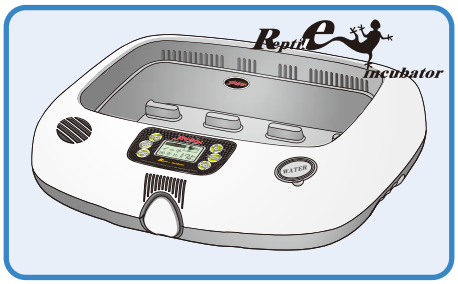
Rcom KINGSURO MAX 20 (MX-SURO)



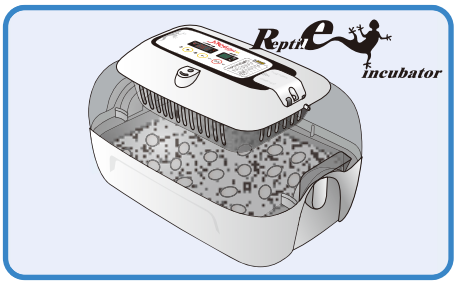
Rcom MAX 20 (MX-20)



Rcom PRO 20 (PX-20)



Rcom reptiles PRO 90 (PX-R90)



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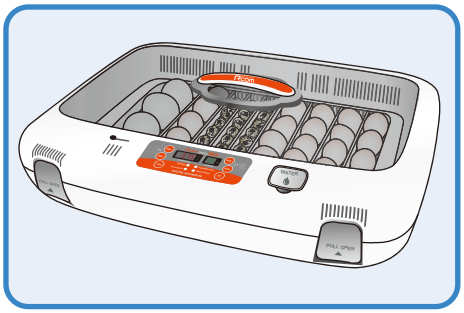
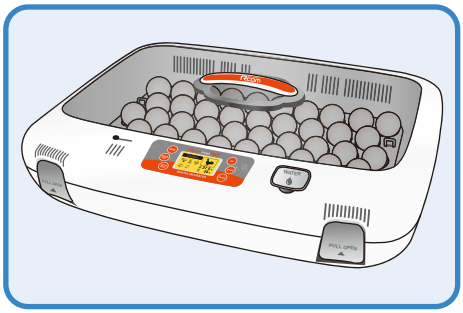


Rcom MAX 50 (MX-50)



Rcom PRO 50 (PX-50)

Rcom BROODER&ICU
(MX-BS500(N))

Rcom DIGILOG
(PX-V1)

Rcom DIGILOG2
(PX-V2)

Rcom MARU 190 / 380 / 1000 PART LIST

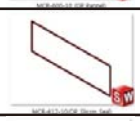
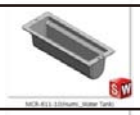
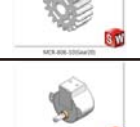
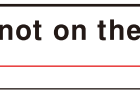
Image	Part No	Names of goods (*.Compatible)
	C38-811-10	C38 OP Pannel(*)
	C38-612-10	C38 OP Seal(*)
	C38-A300L-10 C38-A300H-10	C38 SMPS 110PCB (190/380) C38 SMPS 220PCB (190/380)
	C1K-A300L-10 C1K-A300H-10	C1K SMPS 110 PCB(1000) C1K SMPS 220 PCB(1000)
	C38-A305M-10	C38 Main PCB Max ASM(*)
	C38-300-10	C38 Membrane SW MAX (190/380)
	C1K-300-10	C1K Membrane SW MAX(1000)
	C38-A302ML-10 C38-A302MH-10	C38 Max 110 OP ASM (Max 220 OP ASM)
	C1K-A302ML-10 C1K-A302MH-10	C1K Max 110 OP ASM C1K Max 220 OP ASM
	C38-A610-10	C38 Vent ASM(*)
	RCM-A301-10	APS TH V2 Sensor ASM(*)
	RCM-705-10	Tube CLAMP(*)
	RCM-706-10	Wire Hold(*)
	RCM-700-10	Slicon Tube(*)
	C38-A306-10	C38 Water Pump Motor ASM(*)
	C38-303-10	C38 Thermostat(*)

Image	Part No	Names of goods (*.Compatible)
	C38-611-10	Maru Water Tank(*)
	RCM-600-10	Suro Nipple(*)
	C19-A300L-10 C19-A300H-10	C19 Humidity 110 ASM(*) C19 Humidity 220 ASM(*)
	C38-304-10	Power Inlet(6)(*)
	C38-304(XX)-10	Power Cord(6)
	C38-308-10	Micro SW(*)
	C38-002-10 C1K-004-10	C38 OP Frame (190/380) C1K OP Frame (1000)
	C38-003-10 C1K-005-10	C38 Upper Frame (190/380) C1K Upper Frame (1000)
	C38-008-10	C38 Shaft Arm(*)
	C38-H754DB-10	Double Gear59T(*)
	C38-H754-10	Gear59T(*)
	C38-H755-10	Gear20(*)
	C38-302L-10 C38-302H-10	C38 Synchro 110Motor(*) C38 Synchro 220Motor(*)
	C19-028-10 C38-028-10	C19 Disk (190) C38 Disk (380)
	C1K-016-10 C1K-017-10	C1K Disk-L (1000) C1K Disk-R (1000)
	RCM-707-10	E-Ring5(*)
	RCM-708-10	E-Ring6(*)

※ Partly spare parts are not on the parts list.

Rcom MARU 190 / 380 / 1000 PART LIST

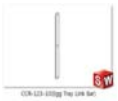
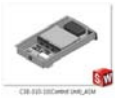
Image	Part No	Names of goods (*.Compatible)
	C38-A310L-10 C38-A310H-10	C38 Turning 110 Motor ASM C38 Turning 220 Motor ASM
	C38-009-10	C38 Egg Tray Support(*)
	C38-013-10	C38 Link Bar(190/380)
	C1K-018-10	C1K Link Bar(1000)
	C19-005-10	C19 Cradle Tray(190)
	C38-014-10	C38 Cradle Tray(380/1000)
	C38-307-10	BLDC FAN80(*)
	C19-A301L-10 C19-A301H-10	C19 Heat 300WL ASM C19 Heat 300WH ASM
	C38-A301L-10 C38-A301H-10	C38 Heater 300WL ASM C38 Heater 300WH ASM

Image	Part No	Names of goods (*.Compatible)
	C1K-A301L-10 C1K-A301H-10	C1K Heater 300WL ASM C1K Heater 300WH ASM
	C19-A310ML-10 C19-A310MH-10	C19 Top Body 110 ASM C19 Top Body 220 ASM
	C38-A311ML C38-A311MH	C38 Top Body 110 ASM C38 Top Body 220 ASM
	C1K-A310ML-10 C1K-A310MH-10	C1K Top Body 110 ASM C1K Top Body 220 ASM
	C19-002-10 C38-021-10 C1K-101-10	C19 Bottom Plate(190) C38 Bottom Plate(380) C1K Bottom Plate(1000)
	C19-003-10 C38-022-10 C1K-003-10	C19 Top Cover(190) C38 Top Cover(380) C1K Top Cover(1000)
	C38-042-10	C38 Front Frame BRK(*)
	C38-043-10	C38 Rear Frame BRK(*)
	C38-023-10 C1K-006-10	C38 Body Frame (190/380) C1K Body Frame (1000)
	C38-024-10	C38 Frame- FL (190/380)

※ Partly spare parts are not on the parts list.

Rcom MARU 190 / 380 / 1000 PART LIST

Image	Part No	Names of goods (*.Compatible)
	C38-025-10	C38 Frame- FR (190/380)
	C38-026-10	C38 Frame-RR (190/380)
	C19-006-10 C38-027-10 C1K-013-10	C19 Crank Bar(190) C38 Crank Bar(380) C1K Crank Bar(1000)
	C38-044-10	C38 Magnet L-BRK(*)
	C38-045-10	C38 Magnet M-BRK(*)
	RCM-702-10	Magnet(*)
	C38-816-10	C38 Hinge(*)
	C38-A700-10 C1K-A700-10	C38 Door ASM (190/380) C1K Door ASM (1000)
	C19-701-10 C38-705-10 C1K-703-10	C19 Side Foam Board(190) C38 Side Foam Board(380) C1K Side Foam Board(1000)

Image	Part No	Names of goods (*.Compatible)
	C38-706-10 C38-706-10 C1K-704-10	C19 Rear Foam Board(190) C38 Rear Foam Board(380) C1K Rear Foam Board(1000)
	C19-703-10 C38-707-10 C1K-705-10	C19 Top Styrofoam C38 Top Styrofoam C1K Top Styrofoam
	C19-704-10 C38-708-10 C1K-706-10	C19 Bottom Styrofoam C38 Bottom Styrofoam C1K Bottom Styrofoam
	RCM-701-10	Rubber Foot(*)
	C38-H756-10 (Option)	Universal Egg Basket(*)
	C38-H757-10 (Option)	Basket Support(*)
	RCM-H623-10 (Option)	ABS Divider(no.3)(*)
	C38-041-10 (Option)	C38 Wheel BRK(*)
	C38-A702-10 (Option)	C38 Wheel ST(*)
	C38-A701-10 (Option)	C38 Wheel BK(*)

※ Partly spare parts are not on the parts list.

Rcom is designed for user's easy and convenient use.
It can be changed without notice for improvement in performance,
design,treatment, and software, etc.

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AUTOELEX CO.,LTD.

- Head Office : Deokam 612 Juchon Gimhae
  621-843 KOREA
- TEL : 82-55-337-2560 (Direct to sales team)
  82-55-337-2561~3 (Office)
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